

LISTING OF CLAIMS

1. (original) A laser-based device comprising:
a VCSEL-type laser having an active side and a passive side opposite the active side; and
a photodetector unit on the passive side, the photodetector unit comprising
an absorbing region located so as to receive leakage photons exiting the laser through
the passive side, and
a Schottkey contact having a first portion abutting the absorbing region and through
which a current, caused by absorption of the leakage photons in the absorbing, can be measured.
2. (original) The device of claim 1 further comprising:
a substrate abutting the active side.
3. (original) The device of claim 2 wherein the substrate comprises:
an access way over at least a portion of the active side so that, when the laser emits light
through the active side, the emission will pass through the access way.
4. (original) The device of claim 1 wherein the absorbing region comprises
a substrate on which the laser was grown.
5. (original) The device of claim 1 further comprising:
a substrate located between a second portion of the Schottkey contact and the absorbing
region.

6. (original) The device of claim 1 wherein the laser is a top emitting laser.
7. (original) The device of claim 1 wherein the laser is a bottom emitting laser.
8. (original) The device of one of claims 1 through 7 further comprising:
an electronic circuit chip hybridized to the laser.
9. (original) The device of claim 8 further comprising:
a planarizing dielectric located between at least a portion of the electronic circuit chip and
the laser.
10. (original) The device of one of claims 1 through 7 wherein the active side comprises an
active side mirror and wherein the active side mirror is doped so as to be p-type.
11. (original) The device of one of claims 1 through 7 wherein the active side comprises an
active side mirror and wherein the active side mirror is doped so as to be n-type.
12. (original) The device of claim 1 wherein the absorbing region is a semi-insulating
material.
13. (original) The device of claim 12 wherein the semi-insulating material comprises:
Gallium Arsenide.

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14. (original) The device of claim 12 wherein the semi-insulating material is less than two microns in thickness.

15. (original) The device of claim 12 wherein the semi-insulating material is about 1 micron in thickness.

16. (original) The device of one of claims 1 through 7 wherein the active side comprises an active side mirror and wherein the active side mirror comprises at least one of a carbon dopant, a berrilium dopant or a zinc dopant.

17. (original) The device of claim 16 wherein the active side mirror comprises:
AluminumGalliumArsenide.

18. (original) The device of one of claims 1 through 7 wherein the passive side comprises a passive side mirror and wherein the passive side mirror comprises at least one of a silicon dopant or a tellurium dopant.

19. (original) The device of claim 18 wherein the active side mirror comprises:
AluminumGalliumArsenide.

20. (original) A method performed by a device comprising a laser having an active side mirror through which the laser is emitting an output signal, and a passive side mirror opposite the active side mirror, the method comprising:

measuring photons leaked out of the laser, through the passive side mirror, into a material that will convert the photons into an electrical current that is measurable using a Schottkey contact, via the Schottkey contact;

determining if a result of the measuring requires a compensation action; and

performing the compensation action when the compensation action is required unless the result of the measuring indicates that the laser is actually dead.

21. (original) The method of claim 20 further comprising:

determining an output power amount for the laser based upon a proportional relationship between photon leakage and laser output power.

22. (original) The method of claim 20 wherein the performing the compensation action comprises:

adjusting a bias current for the laser.

23. (original) The method of claim 20 wherein the performing the compensation action comprises:

adjusting a modulation current for the laser.

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24. (original) The method of claim 20 further comprising:
substituting a redundant laser for the laser when the result of the measuring indicates that the laser is actually dead.

Claims 25-32 (Canceled)